CLAIMS

1. A composition comprising a mixture of

(a) a fluorinated polyether isocyanate derived silane or a mixture thereof comprising the reaction product of:

(i) a fluorinated polyether compound of the formula

$$(T'_{k'}\text{-}Q')_y\text{-}R_f\text{-}Q\text{-}T_k \qquad (I)$$

wherein R_f is a monovalent or divalent polyfluoropolyether group; Q and Q' is independently a chemical bond, a divalent organic linking group or a trivalent organic linking group; T and T' each independently represent –NCO or an isocyanate reactive group; k' is an integer from 0 to about 5; k is at least 2; and y is 0 or 1 and;

(ii) a silane compound of the formula

$$T''\text{-}Q''\text{-}Si(Y_{3-x})R'_x \qquad (II)$$

wherein T'' is –NCO or an isocyanate reactive group; Q'' is an organic divalent linking group; R' is an alkyl group or an aryl group; Y is a hydrolyzable group; and x is 0 or 1; and wherein at least one of T or T" is -NCO; and

(b) an organic solvent.

2. The composition of claim 1 wherein the isocyanate reactive group is selected from the group consisting of $-CO_2R^3$, where R^3 is hydrogen or hydroxyalkyl, $-C(O)N(R^1)(R^2)$, where R^1 and R^2 are independently hydrogen, hydroxyalkyl or polyalkylenepolyamine; -OH, -SH, and NHR'.

3. The composition of claim 1 further comprising a surfactant.

4. The composition of claim 3 wherein said surfactant is a fluorosurfactant.

5. The composition of claim 1 wherein said organic solvent comprises an organic solvent capable of dissolving at least 0.01% by weight of the fluorinated polyether isocyanate derived silane or mixture thereof.

6. The composition of claim 1 wherein said organic solvent comprises a fluorinated organic solvent.

7. The composition of claim 1 wherein R_f in Formula (I) is of the formula:

$$-((R_f^3)_q-R_f^2-O)_{z'}-R_f^1-(O-R_f^2-(R_f^3)_q)_z- \quad \text{(III)}$$

wherein R_f^1 is a perfluorinated alkyl or a perfluorinated alkylene group, R_f^2 is a perfluorinated polyalkyleneoxy group consisting of perfluorinated alkyleneoxy groups having 1, 2, 3 or 4 carbon atoms or a mixture of such perfluorinated alkyleneoxy groups; R_f^3 is a perfluorinated alkylene group or a substituted perfluorinated alkyl group; q and q' are independently chosen from 0 or 1; z is from 4 to 30, and z' is 0 to 30.

8. The composition of claim 7 wherein R_f^2 comprises repeating units selected from the group consisting of $-(C_nF_{2n}O)-$, $-(CF(Z)O)-$, $-(C_nF_{2n}CF(Z)O)-$, and $-(CF_2CF(Z)O)-$, and combinations thereof, wherein n is at least 1 and wherein Z is a fluorine atom, a perfluoroalkyl group, a substituted perfluoroalkyl group, a perfluoroalkoxy group, or a substituted perfluoroalkoxy group.

9. The composition of claim 7 wherein R_f^3 comprises repeating units selected from the group consisting of $-(C_nF_{2n})-$ and $-(CF(Z))-$, and combinations thereof, wherein n is at least 1 and wherein Z is a fluorine atom, a perfluoroalkyl group, a substituted perfluoroalkyl group, a perfluoroalkoxy group, or a substituted perfluoroalkoxy group.

10. The composition of claim 1, wherein R_f is $-CF_2O(CF_2O)_m(C_2F_4O)_pCF_2-$, $-CF_2O(C_2F_4O)_pCF_2-$, $-CF(CF_3)(OCF_2(CF_3)CF)_pO(CF_2)_mO(CF(CF_3)CF_2O)_pCF(CF_3)-$, $CF_3CF_2CF_2O(CF(CF_3)CF_2O)_pCF(CF_3)-$, or combinations thereof, where an average value for m and p is 0 to 50 and m and p are not independently 0.

11. The composition of claim 1 wherein R_f is $CF_3CF_2O(CF_2O)_m-(C_2F_4O)_pCF_2-$, $-CF(CF_3)(OCF_2(CF_3)CF)_pO(CF_2)_mO(CF(CF_3)CF_2O)_pCF(CF_3)-$, $CF_3CF_2O(C_2F_4O)_pCF_2-$, $CF_3CF(CF_3)O-(CF(CF_3)CF_2O)_pCF(CF_3)-$, or combinations thereof, where an average value for m and p is 0 to 50 and m and p are not independently 0.

12. The composition of claim 1 wherein Q is a chemical bond, Q" is $-(C_nH_{2n})-$, where n is 2 to 6, x is 0 and Y is a C_1-C_4 alkoxy group.

13. A method for treating a substrate comprising the step of applying a composition according to claim 1 to said substrate.

14. The method of claim 13 wherein said method further comprises curing the applied composition at elevated temperature.

15. The method of claim 13 wherein said substrate is a ceramic or a glass substrate.

16. The method of claim 13 wherein the substrate is an antireflective surface, wherein said coating composition forms an antisoiling coating thereon.

17. The method of claim 16 wherein the antisoiling coating is less than about 100 Angstroms thick and comprises a fluorinated isocyanate derived siloxane film in an amount that does not significantly reduce the antireflective characteristics of the antireflective article.

18. A composition comprising a mixture of:

(a) a fluorinated polyether isocyanate derived silane or a mixture thereof comprising the reaction product of:

(i) a fluorinated polyether compound of the formula

$$(T'_{k'}\text{-}Q')_y\text{-}R_f\text{-}Q\text{-}T_k \qquad (I)$$

wherein R_f is a monovalent or divalent polyfluoropolyether group; Q and Q' is independently a chemical bond, a divalent organic linking group or a trivalent organic linking group; T and T' are each independently –NCO or an isocyanate reactive group; k' is an integer from 0 to about 5; k is at least 2; and y is 0 or 1 and;

(ii) a silane compound of the formula

$$T''\text{-}Q''\text{-}Si(Y_{3-x})R'_x \qquad (II)$$

wherein T'' is –NCO or an isocyanate reactive group; Q'' is an organic divalent linking group; R' is an alkyl group or an aryl group; Y is a hydrolyzable group; and x is 0 or 1, and wherein at least one of T or T" is -NCO.

19. The composition of claim 18 wherein the isocyanate reactive groups are selected from the group consisting of $-CO_2R^3$, where R^3 is hydrogen or hydroxyalkyl, $-C(O)N(R^1)(R^2)$, where R^1 and R^2 are independently alkanol or polyalkylenepolyamine), -OH, -SH , and NHR'.

20. The composition of claim 18 wherein R_f is a divalent polyfluoropolymer group.

21. A composition of claim 18 wherein Q is a chemical bond; Q" is $-(C_nH_{2n})-$, where n is 2 to 6; x is 0, and Y is a C_1-C_4 alkoxy group.

22. An article having a surface, at least a portion of said surface having a coating thereon, said coating comprising the reaction product of:

(i) a fluorinated polyether compound of the formula

$$(T'_{k'}\text{-}Q')_y\text{-}R_f\text{-}Q\text{-}T_k \qquad (I)$$

wherein R_f is a monovalent or divalent polyfluoropolyether group; Q and Q' is independently a chemical bond, a divalent organic linking group or a trivalent organic linking group; T and T' are each independently –NCO or an isocyanate reactive group; k' is an integer from 0 to about 5; k is at least 2; and y is 0 or 1 and;

(ii) a silane compound of the formula

$$T''\text{-}Q''\text{-}Si(Y_{3-x})R'_x \qquad (II)$$

wherein T'' is –NCO or an isocyanate reactive group; Q'' is an organic divalent linking group; R' is an alkyl group or an aryl group; Y is a hydrolyzable group; and x is 0 or 1, and wherein at least one of T or T" is -NCO.

23. The article of claim 22 wherein said article is a ceramic or glass substrate.